

1    1.    A method of efficiently reducing the amount of graphical data transmitted from a  
2    server to a client via a communications network, the method comprising the steps of:  
3               separating a path into a plurality of strips, each of the plurality of strips having a  
4    strip length and an absolute angle associated therewith;  
5               determining a quantized angle associated with the absolute angle for each of the  
6    plurality of strips;  
7               forming a protocol stream at the server, the protocol stream including a  
8    beginning coordinate of the path and the strip length and an indicia of the quantized  
9    angle of each of the plurality of strips; and  
10              transmitting the protocol stream from the server to the client via the  
11    communications network.

1    2.    The method of claim 1 further comprising the step of compressing the beginning  
2    coordinate of the path and the strip length and the indicia of the quantized angle of each  
3    of the plurality of strips prior to transmitting the protocol stream to the client.

1    3.    The method of claim 1 wherein the protocol stream includes an indicia associated  
2    with at least one of the plurality of strips, the indicia corresponding to an index  
3    identifying a location of the at least one of the plurality of strips within a cache memory  
4    coupled to the client.

1    4.     The method of claim 1 wherein the protocol stream includes an indicia associated  
2    with at least one of the plurality of strips, the indicia corresponding to a fuzzy key  
3    identifying a location of the at least one of the plurality of strips within a persistent  
4    storage memory coupled to the client.

1    5.     The method of claim 1 wherein the indicia of the quantized angle corresponds to a  
2    quantized angle delta.

1    6.     A method of efficiently reducing the amount of graphical data transmitted from a  
2    server to a client via a communications network, the method comprising the steps of:  
3         separating a path into a plurality of strips, each of the plurality of strips having a  
4         beginning and an endpoint coordinate defined within a coordinate system, the  
5         coordinate system corresponding to a region of a display surface associated with the  
6         client;  
7         quantizing the coordinate system into a plurality of quantized angles;  
8         determining the endpoint coordinate of a first one of the plurality of strips;  
9         normalizing the endpoint coordinate of the first strip to correspond to the origin  
10      of the coordinate system;  
11         associating the endpoint coordinate of the first strip to a beginning coordinate of  
12      a second one of the plurality of strips;  
13         selecting one of the plurality of quantized angles of the coordinate system, the  
14      selected quantized angle corresponding to an approximate angle of the second strip; and

15 transmitting a difference between the endpoint coordinates of the first and  
16 second strips and an indication of the quantized angle to the client.

1 7. A system for efficiently reducing the amount of graphical data transmitted from a  
2 server to a client via a communications network, the system comprising:  
3 a server agent operating on the server and coupled to the client via the  
4 communications network, wherein the server agent  
5 a) separates a path into a plurality of strips, each of the plurality of strips having  
6 a strip length and an absolute angle associated therewith;  
7 b) determines a quantized angle associated with the absolute angle for each of  
8 the plurality of strips;  
9 c) forms a protocol stream at the server, the protocol stream including a  
10 beginning coordinate of the path and the strip length and an indicia of the quantized  
11 angle of each of the plurality of strips; and  
12 d) transmits the protocol stream from the server to the client via the  
13 communications network.

1 8. The system of claim 7 wherein the server agent compresses the beginning  
2 coordinate of the path and the strip length and the indicia of the quantized angle of each  
3 of the plurality of strips prior to transmitting the protocol stream to the client.

1       9.     The method of claim 7 wherein the protocol stream includes an indicia associated  
2     with at least one of the plurality of strips, the indicia corresponding to an index  
3     identifying a location of the at least one of the plurality of strips within a cache memory  
4     coupled to the client.

1       10.    The method of claim 7 wherein the protocol stream includes an indicia associated  
2     with at least one of the plurality of strips, the indicia corresponding to a fuzzy key  
3     identifying a location of the at least one of the plurality of strips within a persistent  
4     storage memory coupled to the client.

1       11.    The method of claim 7 wherein the indicia of the quantized angle corresponds to a  
2     quantized angle delta.

1       12.    A system for efficiently reducing the amount of graphical data transmitted from a  
2     server to a client via a communications network, the system comprising:  
3              a server agent operating on the server and coupled to the client via the  
4     communications network, wherein the server agent  
5              a) separates a path into a plurality of strips, each of the plurality of strips having  
6     a beginning and an endpoint coordinate defined within a coordinate system, the  
7     coordinate system corresponding to a region of a display surface associated with the  
8     client;  
9              b) quantizes the coordinate system into a plurality of quantized angles;

- 10           c) determines the endpoint coordinate of a first one of the plurality of strips;
- 11           d) normalizes the endpoint coordinate of the first strip to correspond to the
- 12       origin of the coordinate system;
- 13           e) associates the endpoint coordinate of the first strip to a beginning coordinate
- 14       of a second one of the plurality of strips;
- 15           f) selects one of the plurality of quantized angles of the coordinate system, the
- 16       selected quantized angle corresponding to an approximate angle of the second strip; and
- 17           g) transmits a difference between the endpoint coordinates of the first and
- 18       second strips and an indication of the quantized angle to the client.

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